

**UCC Library and UCC researchers have made this item openly available.
Please [let us know](#) how this has helped you. Thanks!**

Title	Bilateral neonatal suppurative sialadenitis progressing to abscess formation in a preterm neonate
Author(s)	Shaughnessy, Niamh; McGrath, T.; Moore, M.; Walsh, Brian Henry
Publication date	2019-06
Original citation	Shaughnessy, N., McGrath, T., Moore, M. and Walsh, B. H. (2019) 'Bilateral neonatal suppurative sialadenitis progressing to abscess formation in a preterm neonate', Irish Medical Journal, 112(6), P955. Available at: http://imj.ie/bilateral-neonatal-suppurative-sialadenitis-progressing-to-abscess-formation-in-a-pre-term-neonate/ (Accessed: 8 November 2021)
Type of publication	Article (peer-reviewed)
Link to publisher's version	https://imj.ie/bilateral-neonatal-suppurative-sialadenitis-progressing-to-abscess-formation-in-a-pre-term-neonate/ Access to the full text of the published version may require a subscription.
Rights	© 2019, Irish Medical Journal. All rights reserved.
Item downloaded from	http://hdl.handle.net/10468/12169

Downloaded on 2021-11-27T17:15:25Z

Bilateral Neonatal Suppurative Sialadenitis Progressing to Abscess Formation in a Preterm Neonate

N. Shaughnessy¹, T. McGrath², M. Moore², B.H. Walsh¹

1. Department of Neonatology, Cork University Maternity Hospital, Wilton, Cork, Co. Cork, Ireland

2. Department of Radiology, Cork University Hospital, Co. Cork, Ireland

Abstract

Aims

We report a case of bilateral neonatal suppurative sialadenitis (NSS) in an extremely low birth weight infant (ELBW).

Methods

The infant developed bilateral sub-mandibular swelling at 3 weeks of age. NSS with abscess was confirmed with ultrasound. Despite intravenous antibiotic therapy the masses increased in size and developed abscesses.

Results

Unilaterally the abscess discharged via Wharton's duct necessitating intubation to protect the airway. The abscess remnant was incised and drained. Culture grew a methicillin sensitive staphylococcus aureus. The NSS resolved following two weeks of antibiotics.

Conclusion

We wish to highlight the importance of early recognition of this rare condition in preterm neonates.

Introduction

Suppurative sialadenitis is an infection of the salivary glands. Its occurrence in the neonatal population is extremely rare, however the exact incidence is unclear with the literature being limited to a small number of cases reports and cases series. Despite being uncommon it can have significant clinical implications, including disseminated sepsis, osteomyelitis and airway compromise. Therefore the clinician should consider this possible differential when reviewing a neck swelling in the newborn.

We present the case of a premature female infant who developed a bilateral submandibular suppurative sialadenitis, and discusses the aetiology, complications and management of NSS.

Case Report

A preterm female infant was born at 27+3 weeks gestation (580g) following an emergency Caesarean Section for intrauterine growth restriction, with reversed end diastolic flow.

At delivery she was intubated and ventilated due to respiratory distress syndrome. She was extubated to non-invasive ventilation on day of life 5, but required re-intubation on day 10 for apnea. She was screened for infection at that time with a full blood count, CRP and blood culture and received 5 days of antibiotics, but cultures remained negative. By day 14 she had been extubated again to nasal continuous positive airway pressure and had achieved full enteral nutrition.

On day of life 18, bilateral submandibular masses were noted on routine physical examination. These increased in size over a few hours. They were large, firm and erythematous. The remainder of her examination was unremarkable, including normal vital signs.

The primary differential included a developing abscess, with lymphadenitis a less likely alternative. A partial septic work-up was performed including full blood count, CRP and blood culture and she was commenced on empirical intravenous antimicrobials (teicoplanin, gentamicin and flucloxacillin). An ultrasound scan demonstrated bilateral hypoechoic soft tissue masses in the submandibular region, consistent with bilateral submandibular sialadenitis (see image 1). Following this, and in discussion with microbiology, antimicrobial treatment was rationalised to intravenous co-amoxiclav (for additional aerobic cover) and gentamicin.

Over the following days, the neck masses progressively increased in size. They were more erythematous and firm with new puncta present (see image 2). On day of life 21, she had an acute apnoeic event and a large volume of purulent serosanguinous fluid was suctioned from the oropharynx. There was no sign of abscess in the floor of the mouth and this likely had discharged from the Wharton's duct. Following initial stabilization, she was intubated to ensure the airway was protected and the external abscess was incised with a 25 gauge needle and allowed to drain. She remained intubated for five days and completed 13 days of intravenous co-amoxiclav. This wound healed by secondary intention.



Image 1



Image 2

Discussion

Suppurative sialadenitis is an uncommon infection in newborn infants. Typically, it involves the parotid gland¹, with the submandibular gland being a rarer site of primary infection^{2,3}. In fact, a review specifically of submandibular NSS, found a total of only 39 cases reported in the medical literature to-date.⁴ NSS was unilateral in 84% (33/39)⁴ of cases. Identified risk factors include prematurity, orogastric feeding, dehydration and supported ventilation^{1, 3, 4, 7}. The clinical presentation is typically an erythematous, tender, submandibular mass in the absence of systemic signs⁵. While NSS is primarily a clinical diagnosis, the use of ultrasound can aid in the diagnosis³ (Image 1), the differential for which includes: venous malformations, haemangiomas, lymphadenitis or congenital tumours.⁸

The most common causative organism is *Staphylococcus aureus*. The standard first line of treatment includes airway monitoring and management if required, and empiric intravenous antibiotics. Once cultures have determined the organism and sensitivities, the antibiotic therapy should be adjusted accordingly.

There is limited evidence available to guide treatment in the ELBW population. In cases that fail to respond to appropriate intravenous antibiotics, alternatives that have been proposed include incision and drainage⁵, or manual compression and expression of pus from Wharton's duct⁷. Both of these may be technically challenging in a small ELBW infant and neither is without risk. Incision and drainage has been associated with adverse events such as facial nerve weakness, lingual or hypoglossal nerve damage, haemorrhage and sinus formation⁶. Contrary to this the risks associated with manual compression include abscess rupture, septicaemia and aspiration resulting in respiratory compromise⁷. Therefore, neither option should be under-taken lightly but rather should be considered dependent upon the clinical necessity and when possible with sub-specialist support.

The case discussed highlights the importance of early recognition of NSS. It has the potential to cause significant life threatening events, in particular airway obstruction upon rupture of the abscess. To the best of our knowledge, this is the first case of NSS reported in an ELBW infant in Ireland.

Consent

Consent has been obtained from the patient's primary caregiver to discuss the patient's hospital course as above.

Conflicts of Interest

The authors do not have a conflict of interest with the issues raised in this paper.

Funding Statement

No funds external to our department were sought or obtained for the preparation of this paper.

Corresponding Author

Dr. Niamh Shaughnessy,
Cork University Maternity Hospital,
Co. Cork,
Ireland.
Email: niamhshock@hotmail.com

References

- 1.) D. Leake, R. Leake, Neonatal suppurative parotitis, Paediatrics 46 (1970) 203-207
- 2.) D.H. Wells, Suppuration of the submandibular salivary glands in the neonate, Am. J. Dis. Child. 129 (1975) 628- 630.
- 3.) W.W. Banks, S.D. Handler, G.B. Glade, H.D. Turner, Neonatal submandibular sialadenitis, Am. J. Otolaryngol. 1 (1980) 261- 263
- 4.) M.D. Alvarez, B.A. Batista, L.R. Ales, Neonatal acute suppurative submandibular sialadenitis. Literature reports from 1950-2015, Boletin Medico del Hospital Infantil de Mexico, 2016;73(5):302-308.
- 5.) R.M. McAdams, E.A. Mair, M Rajnik; Neonatal suppurative submandibular sialadenitis: Case report and literature review. Int. J. Ped. Otorhinolaryngol. 69 (2005) 993- 997.
- 6.) C. Klem, E.A. Mair, Four-duct ligation: a simple and effective treatment for chronic aspiration from sialorrhoea. Arch. Tool. Head Neck Surg. 125 (1999)
- 7.) M. Pathak, L. Yadav, L.K. Bansal; Suppurative submandibular sialadenitis in a term neonate: Is there an alternative to incision and drainage? Int. J. Ped. Otorhinolaryngol Extra 8 (2013) 69- 70
- 8.) Ryan RF, Padmakumar B. Neonatal suppurative sialadenitis: an important clinical diagnosis. BMJ Case Rep. 2015 May 22;2015^{[i][i]}

Issue: Ir Med J; Vol 112; No. 6; P955

COOKIES SETTINGS



[\(https://imj.ie/\)](https://imj.ie/)

[Home \(https://imj.ie\)](https://imj.ie).

[This Month \(https://imj.ie/irish-medical-journal-october-2021-vol-114-no-9/\)](https://imj.ie/irish-medical-journal-october-2021-vol-114-no-9/).

[For Authors \(https://imj.ie/for-authors/\)](https://imj.ie/for-authors/).

[Subscribe \(https://imj.ie/subscribe/\)](https://imj.ie/subscribe/).

[My CPD \(https://imj.ie/home/my-cpd/\)](https://imj.ie/home/my-cpd/).

[Classified Ads \(https://imj.ie/classifieds/\)](https://imj.ie/classifieds/).

[Archive \(https://imj.ie/archive/\)](https://imj.ie/archive/).

[About Us \(https://imj.ie/about-us/\)](https://imj.ie/about-us/).

[Privacy and Cookies Policy \(https://imj.ie/privacy-and-cookies-policy/\)](https://imj.ie/privacy-and-cookies-policy/).

Theme by [Tyler Moore](http://tyler.com)

[\(http://tyler.com\)](http://tyler.com).